

August 29, 2003



Mr. Joel K. Bladow
Regional Manager
Western Area Power Administration
P.O. Box 3700
Loveland, CO 80539-3003

Dear Mr. Bladow:

The Municipal Energy Agency of Nebraska (MEAN) appreciates the opportunity to submit these comments on the Proposed Rate Adjustment for Transmission and Ancillary Services for the Loveland Area Projects (LAP) of the Western Area Power Administration (WAPA), effective January 2004, as proposed in the Federal Register Notice dated June 13, 2003.

Introduction

MEAN provides electric service to 46 total requirements participants, including 13 located on the LAP transmission system. MEAN's peak demand on the LAP system was approximately 100 MW in July 2002. MEAN's load on the LAP system is served from a variety of resources:

- WAPA-LAP allocation of 66 MW
- WAPA-CRSP allocation of approximately 13 MW
- Laramie River Station ownership of 18 MW
- Purchases from other utilities totaling 63 MW
- Peaking generation of approximately 20 MW
- MEAN Wind Project at Kimball totaling 10.5 MW of nameplate capacity

MEAN is one of the largest network customers on the LAP transmission system. MEAN abides by the requirements of the Open Access Transmission Tariff, the Scheduling, Accounting and Billing Procedures and all other requirements on a comparable basis to LAP's other network transmission customers.

From a firm power purchaser standpoint, MEAN has the third largest allocation of power and energy from LAP, based on the WAPA Statistical Index for 2002. As a firm power customer, MEAN abides by the requirements of the Energy Planning and Management Program (EPAMP) and submits an Integrated Resource Plan (IRP) every five years. As part of the IRP, MEAN attempts to minimize adverse environmental impacts related to resource planning decisions.

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Summary of Comments

In general, the proposed rate changes seem reasonable and justified. Reductions in rates for point-to-point service and network service revenue requirements will be of great benefit to MEAN and its wholesale customers. Changes to the scheduling bandwidth and energy imbalance service are also fair and reasonable.

However, the proposed rate for Regulation and Frequency Response Service for Intermittent Renewable Resources is unreasonable, discriminatory, inconsistent with cost of service principles and inconsistent with the goals in the EPAMP. Without changes, the proposal will have a devastating financial impact on existing renewable facilities on the WAPA system and stifle future development of renewable facilities on the LAP transmission system. This seems contrary to the signals being given by regulators and WAPA's own management.

Detailed Comments

- *General Rate Changes*

MEAN is supportive of the changes being proposed for firm power rates and revenue requirements. Lower transmission rates and revenue requirements are good for MEAN, its members and all customers in the LAP system. Lower rates encourage additional usage of the transmission system, which, in turn, can lower revenue requirements for transmission customers that are native to the LAP system.

- *Energy Imbalance Service*

MEAN is supportive of the changes to the Energy Imbalance Service rate. The increased bandwidth and reduced penalties are beneficial to all customers that use this service responsibly. We believe all customers in the LAP transmission system have a responsibility to schedule loads and resources as accurately as possible; however, even the best efforts to schedule loads and resources accurately can be affected by weather and other uncontrollable forces, such as generation problems and/or long holiday weekends. In some cases, schedules must be submitted 3-4 days in advance, forcing schedulers to rely on weather and load forecasts that are less than complete that far in advance. This is especially true in the Rocky Mountain region where weather forecasts can change dramatically over a few days, causing load forecasts to change dramatically as well. The proposed rate for Energy Imbalance Service includes reasonable penalties for failure to schedule accurately, while still providing a margin for unforeseen changes.

- *Regulation and Frequency Response Rate for Intermittent Renewable Resources*

As stated in our summary, MEAN is opposed to the proposed rate for Regulation and Frequency Service for Intermittent Renewable Resources for several reasons. We understand WAPA's reasons for wanting to implement this type of rate. As a firm power customer, we do not want

the firm power rate to subsidize large-scale wind-farms constructed to serve customers that are outside of the LAP transmission system. We agree with WAPA's statements made during recent informal meetings and public information forums that these types of large-scale projects could have a negative impact on control area operations and increase costs to firm power customers.

For the MEAN Wind Project at Kimball, using the published assumption that would require WAPA to bill MEAN based on 27% of nameplate and an annual capacity factor of 35%, the cost of this service would be approximately \$5.91/ MWh. This proposed charge would increase the cost of wind energy to MEAN's members by more than 10%. This seems quite excessive for one ancillary service for a resource that is being highly sought after by many regulators and politicians.

Following are MEAN's reasons why the charges are unreasonable, discriminatory, inconsistent with cost of service principles and inconsistent with the goals in the EPAMP:

1. The charges are excessive compared to nationally accepted study work.
2. The basis for the 27% of nameplate billing unit basis is flawed.
3. The charges specifically discriminate against renewable resources, without charging intermittent loads or conventional resources that occasionally go out of service or fail to generate what is scheduled for unexpected reasons.
4. The charge conflicts with the scheduling procedures in that the scheduling procedures dictate schedules must be submitted in whole megawatts.
5. The proposed charge ignores the fact that the MEAN Wind Project is statistically insignificant in the scheme of LAP's control area operations.
6. The proposed charge is inconsistent with goals in the EPAMP, which requires firm power customers to "Describe efforts to minimize adverse environmental effects of new resource acquisitions."

The following explains MEAN's rationale for each of these reasons in greater detail:

1. The charges are excessive compared to nationally accepted study work.

As we have indicated in informal discussions with WAPA, there is significant nationally accepted study work that puts the cost of these types of services at levels that are much less than the proposed \$5.91/ MWh. Much of this study work puts the total cost of grid impact, including the cost of forecast inaccuracy, at less than WAPA's proposed rates.

Most notable is a study published in May 2003, prepared by ElectroTek Concepts for the Xcel Energy – North System, titled “Characterizing the Impacts of Significant Wind Generation Facilities on Bulk Power System Operations Planning” (Xcel Study). It should be noted that WAPA was one of the parties that funded the Xcel Study. That study found the cost of integrating 280 MW of wind onto the Xcel-North System to be approximately \$1.85/MWh. The proposed WAPA rate is 319% higher than this rate just for Regulation and Frequency Response, yet the Xcel Study included impacts of other ancillary services, including energy imbalance.

We recognize one key difference between Xcel and WAPA is the size of the system; however, one could extrapolate the impact of a 280 MW wind farm on an 8,000 MW system like Xcel North to the 3,100 MW LAP control area. A comparable sized wind-farm in the LAP control area would be 108 MW. This is a much larger wind farm than those currently located in the LAP control area, like the MEAN Wind Project at Kimball. Therefore, we believe the impact of the renewable projects on the LAP system should be much less than the Study suggests.

Another notable study was prepared by Brian Parsons and Michael Milligan with the National Renewable Energy Laboratory (NREL), dated June 2003, titled “Grid Impacts of Wind Power: A Summary of Recent Studies in the United States.” It provided a summary of results from similar studies around the country. A comparable study prepared by Eric Hirst for PJM Interconnection and Bonneville Power Administration showed impacts of wind farms were less than \$2.50/MWh. PacifiCorp also reviewed the impact of adding significant wind resources to their control area; however, we believe that the PacifiCorp study was not a reasonable comparison because it contemplated wind penetration of 20%, which is much greater than existing wind energy penetration in the WAPA control area.

For the reasons stated above, MEAN is of the opinion that the proposed rate for Regulation and Frequency Response for Intermittent Renewable Resources is not reasonable.

2. The basis for the 27% of nameplate billing unit basis is flawed.
3. It is our understanding that part of the foundation of the 27% billing unit basis was scheduled production versus actual output from the recent past on the LAP system. We believe that looking only at the recent past is not a fair characterization of the future output and scheduling. In MEAN’s case, we only recently passed 9 months of operations at the Wind Project in Kimball. Throughout this time, we continue to work on forecasting output and wind speeds. As time passes, we will continue to optimize this process. If LAP sets a rate that is short term and subject to a review within the next 6-9 months after implementation, it would be fair to assume that the current wind farms would have an opportunity to evaluate these huge cost impacts and seek even more ways to optimize the wind scheduling. MEAN feels that with so

few wind providers in the LAP area, a 6-9 month energy test period would allow LAP to work with the customers to see the impacts and optimize; thus, saving impacts on the LAP system and allowing wind to remain a reasonably competitive energy supply source. The charges specifically discriminate against renewable resources, without charging intermittent loads or conventional resources that occasionally go out of service or fail to generate what is scheduled for unexpected reasons.

The proposed charge is unfair and discriminatory in that it only applies to one class of generation, when, in fact, other generation, as well as end use loads, can cause impacts similar to those caused by intermittent generation.

When generators like Laramie River Station trip unexpectedly, the impact on control area performance much greater than the impact of an intermittent wind generator. Admittedly, the impacts of a Laramie River Station do not occur every hour of every day; however, there can be fluctuations in hydro output or conventional resource output. It would be interesting to see WAPA's schedules for every resource in the control area, as compared to the actual output to determine if there are similar minute-by-minute deviations on other resources. There surely are intra-hour deviations with these resources and they, too, should be charged for similar impacts.

What may have an even greater impact would be fluctuating loads within the control area. Large intermittent motor loads, mining operations and arc welding equipment are examples of loads that require a control area to incur large swings. At the public information forum, WAPA stated that there are no loads of this nature within the control area. We find this statement somewhat hard to believe. At this time, there are no wind farms in the control area that are causing WAPA to be out of compliance with control area performance criteria, either. However, WAPA is implementing a rate to specifically prevent future wind resources from causing negative impacts on the control area, without implementing a similar rate to prevent intermittent loads from having negative impacts on the control area. This amounts to discriminatory treatment of intermittent renewable resources.

4. The charge conflicts with the scheduling procedures in that the scheduling procedures dictate schedules must be submitted in whole megawatts

The Scheduling, Accounting and Billing Procedures (SABP) dictate that scheduling be done in whole megawatts. If wind speeds are such that MEAN anticipates 4.5 MW of generation, a decision must be made on whether to schedule 4 MW or 5 MW. If the output is at 4 MW and MEAN schedules 5 MW, there would be 1 MW of deviation, rather than the 0.5 MW of deviation there would have been if 0.1 MW increment schedules were permitted. Similarly, the nameplate of the MEAN Wind Project is 10.5 MW. If the wind is blowing at a rate that the turbines are at maximum output, they would be producing 10.5 MW. Even if MEAN does as good a job as

possible at predicting the output at the top end of the wind speed curve, it would still be paying for 0.5 MW of regulation and frequency response service.

Because of this situation, if the Regulation and Frequency Response Service is implemented as proposed, a bandwidth of at least plus or minus 1 MW should be included. Failure to implement a bandwidth would not be reasonable, particularly for small wind farms like the MEAN Wind Project at Kimball. This issue was also discussed at length in a recent public meeting regarding charges in the SABP. WAPA needs to review this issue in both contexts and take action.

5. The proposed charge ignores the fact that the existing wind farms are statistically insignificant in the scheme of LAP's control area operations.

WAPA indicated in the public comment forums and in past communications with customers that 75 MW of capacity is set aside for regulation and frequency response service. What WAPA has not indicated is whether or not this has increased over time, or if it increased directly in proportion to the amount of wind generation added to the system.

It is our understanding that the two small wind farms that are included in the control area did not result in an increase in capacity set aside for regulation and frequency response. If they did, on October 1, 2002, when the MEAN Wind Project at Kimball went into commercial service, then WAPA would have increased its regulation and frequency response capacity by 2.8 MW (27% of 10.5 MW nameplate). WAPA never indicated that this, in fact, happened nor did it happen when Platte River Power Authority (PRPA) installed its wind turbines in the Medicine Bow region. In reality, numerous WAPA personnel have indicated on an informal basis that the MEAN and PRPA wind projects are insignificant as it relates to WAPA's system and regulation and frequency response service.

MEAN understands the concern that WAPA would have about a large, merchant-type wind farm wanting to locate on the WAPA transmission system. If that entity was not serving loads on the WAPA system or paying for load following service, it would have a detrimental impact on the firm power customers and LAP transmission customers. LAP should distinguish between "native load" transmission customers that already pay for control area services and those that want a "free ride" from the system to take it to another control area to sell.

To this end, MEAN would propose to exempt existing wind plants serving load within the control area from the proposed Regulation and Frequency Response Service for Intermittent Renewable Resources because they have a negligible impact on the WAPA system. Similarly, MEAN would propose to exempt new small, single turbine installations of less than 2 MW on the grounds that they, too, would have a negligible impact as well.

6. The proposed charge is inconsistent with goals in the Energy Planning and Management Program, requiring firm power customers to minimize adverse environmental effects of new resource acquisitions.

MEAN had a variety of reasons for constructing its wind project. Environmental stewardship was one of the key reasons. Wind energy produces no emissions, uses no fuel, and has relatively little environmental impact. In addition, the cost of wind energy recently has become much more competitive with the cost of conventional resources, making it an ideal resource for MEAN's mix.

One of the ironies in the ancillary service proposal is that WAPA is mandating its firm power customers to minimize environmental impacts through the EPAMP/IRP process. MEAN is going well beyond what most other WAPA customers are doing by generating 2-3% of our annual energy requirements from wind. WAPA and the Department of Energy have recognized MEAN's wind project as being innovative while the United States Environmental Protection Agency has recognized MEAN for its environmental stewardship. By adding 13% to the cost of our project, the likelihood of adding more innovative projects in the region will lessen.

Desired Outcome

MEAN believes that the changes to the transmission rates and energy imbalance rates are reasonable and justified.

Based on the unreasonable and discriminatory nature of the proposed rate for Regulation and Frequency Response Service for Intermittent Renewable Resources, MEAN would like WAPA to consider taking the following actions:

1. Exempt existing wind projects located on the LAP transmission system, provided that they are serving load located within the control area and are less than a certain threshold, such as 20 MW.
2. Exempt future renewable installations of less than 2 MW at a single site. This would make it easier for small municipals or rural systems to install single wind turbines that would have essentially no impact on the system.
3. For new wind installations of greater than 2 MW at a single site, require that a comprehensive study be prepared, similar to the studies prepared for Xcel Energy - North System or PacifiCorp, prior to installation. This is the only way the true cost of providing the service can be determined. It would be the only way to ensure the firm power customers are not subsidizing wind development. The cost of such studies as well as the cost of regulation and frequency response service must be borne by the wind generator that is requesting interconnection.

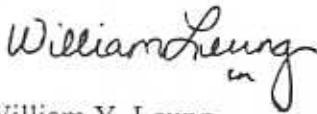
4. If WAPA decides to implement the regulation and frequency response rate in any form, a bandwidth of at least 1 MW (plus or minus) should be included to ensure customers are not penalized because the Scheduling, Accounting and Billing Procedures require scheduling in whole MW.

If WAPA implements the proposed rate adjustment, WAPA should perform a trial without actually assessing charges to review scheduling practices by the current suppliers that generate wind energy. WAPA should also meet with the current suppliers prior to full implementation to allow all parties the opportunity to fully understand the impact of these changes and try to mitigate the huge impact that the rate adjustment will have on innovative power resources.

We appreciate the opportunity to provide these comments. WAPA has proven to be an excellent provider of power supply and transmission services in the past. That is largely because of its willingness to be responsive to the needs of customers. We look forward to continue working with WAPA on the issues in the comments.

If you have any questions regarding these comments, please contact John Krajewski or me at (402) 474-4759.

Sincerely yours,



William Y. Leung
Chief Operating Officer Municipal Energy Agency of Nebraska

WYL/jk/kam

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